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Photo: Ryne Swanberg





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## The first of many...?

Cooper Webb required just five Main Events to cover his Yamaha YZ and factory crew with AMA Supercross champagne. Like Oakland winner Eli Tomac, the youngster needed the opening rounds of his maiden term to find his place and pace. What next? Can he target the orange No.1?

Photo by Rich Shepherd



**AMA-SX**





## Business resumed...

Wheels out of line and limit-searching: more absurdity from the MotoGP World Champion. The series threw off the covers with a humid and damp first run of 2017 in Sepang last week and riders will be clocking the airmiles again as Phillip Island welcomes Grand Prix and then a week-long bevy of World Superbike in the days to come

Photo by CormacGP



**MotoGP**









## All new, none of the 'old'...

Suzuki unveiled the sharp and purposeful new RM-Z450WS last week at their workshop in Lommel Belgium and Kevin Strijbos was soon blasting the fresh bike through the local sand. Will fatherhood give the #22 a firm boost in 2017? A former triple world championship runner-up, Strijbos just needs a clean bill of health to reassert himself in the premier class once more

Photo by Ray Archer/Suzuki Racing











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**AMA-SX**

**OAKLAND**

**O.CO COLISEUM · FEBRUARY 4th**

**450SX winner: Eli Tomac, Kawasaki**

**250SX West Coast winner: Justin Hill, Kawasaki**





A full-page background image of a motocross rider, Eli Tomac, in mid-air during a jump at night. The rider is wearing a green and black jersey with red star logos, orange boots, and a helmet. The background shows a large stadium with spectators and bright lights.

SUPERCROSS: OAKLAND

By Steve Matthes  
Photos by Simon Cudby/Rich Shepherd

# STRONG AS OAK: TOMAC DOUBLES

SOME ALTERNATIVE REGULARITY IN MONSTER ENERGY AMA SUPERCROSS? ELI TOMAC AND JUSTIN HILL BANKED 50 POINTS IN A WEEK BY DOUBLING UP IN OAKLAND AND IN THE CASE OF THE 250SX RIDER TAKING CONTROL OF THE STANDINGS WITH THE WEST COAST NOW ON HIATUS UNTIL EARLY APRIL. TEXAS BODES NEXT FOR ROUND SIX OF THE CAMPAIGN BUT THE LAST – RAINY – STOP IN CALIFORNIA WAS AGAIN A KAWASAKI NIGHT. STEVE MATTHES WAS THERE...



**W**e're five rounds down in the 2017 Monster Energy Supercross series and all the pre-season predictions are sort of back on-track after some topsy-turvy opening rounds threw us "experts" for a loop. We all think we know what's going to happen until we don't, you know?

Monster Energy Kawasaki's Eli Tomac ripped off another impressive win for the second week in a row and moved into second in the series points. It wasn't that long ago, just two weeks actually, that we were wondering what in the heck was wrong with Tomac. He dropped back in the first two races of the year rather alarmingly for him and the team (although after the second week, he was so frustrated he didn't even talk to the team after the race) and the third round he wasn't able to even be up there at all.

It led all of us to wonder what was going on. Tomac's big money Kawasaki deal is up at the end of the year and there's pressure on everyone to make this a successful season. 450SX has been a mixed bag for Tomac, some injuries, some ineffectiveness mixed in with some blazing fast rides has a lot of people wondering if he's ever going to reach the consistency "great" level of a Ryan Dungey or even Ken Roczen.

The last two weeks, first in Glendale, Arizona and now Oakland, California has seen Tomac go two for two with amazing rides. In Glendale he had almost twenty seconds on second and this week he came from WAY back off the start

to catch, pass and drop the Red Bull KTM of Dungey's. It was a tour de force performance for the second week and whatever was ailing Tomac the first few weeks has evaporated and as a title contender he is back in play and just 17 points down.

But in keeping with this year being a bit weird, the night did not start off well for Tomac with a lacklustre heat race ride that forced him to a semi race (which he won).

"I was struggling with flow all day. It was pretty bad. In the heat race I felt like I didn't even know what I was doing, really. I was pretty buried," said Tomac after the race "I think that semi race was a good saving grace for me, just getting out there, breathing and going for it. Yeah, it was a bad gate pick and I got beat on the start but I was able to blow some nerves out and some cobwebs and went to the main and just found it."

The team found him a bit better balance in the KX450F after the heat race but they left it up to him to figure out how to ride a track that was rutty, wet and a mess.

Tomac ate up a big deficit to Dungey in part by doing a triple/quad after the first turn that Dungey, and most others, wanted no part of. Outside the top ten to start, the Kawasaki rider found his groove, started airing out the jump and raced by Dungey and Monster Yamaha's Cooper Webb who gathered his first ever 450SX podium.





SUPERCROSS: OAKLAND









Dungey was once again 'off' all day and, just like last week, he salvaged a day he wasn't his best with a second. Frustrated with the track and a bike that looked to be fighting him, Dungey admitted that he'll take the second and move on. "All in, it was a good night. I'm really happy with it. It was just a couple spots I was losing time on the track," said Dungey. "I'm happy with that. It's not like it's a bike thing. We'll go to work during this week and try to get better. But I was just losing some big time in a few spots. Considering where we started out we made a lot of progress today, so I'm really happy with it."

Back to that early season stuff. Along with Tomac, we were also worried about Webb and his early season struggles where he couldn't seem to get into the top ten. The bike looked to be riding him and he was frustrated after the races. The two-time 250SX champion was supposed to be, maybe not this year but very soon, a podium threat every week. In Oakland, he qualified fastest, won his heat and then was second and challenging Dungey for the lead early before settling into second.

Uh oh, the kids figuring this stuff out. "At first I was kind of trying to pace myself off Ryan (Dungey). A little later on I saw Eli (Tomac) was coming. I thought he had to have been doing something and then I saw he was doing that section (triple/quad). I think he (Tomac) said he got going, especially around halfway, and that's where I kind of started thinking a lot," said Webb. "It's tough, that line of how much effort do you put in and that line of getting a little sketchy and trying to just have a good race. So for me that's I think when it 'hit'. Once he got around me I tried to stay with him a few laps and made a few mistakes. I think that's when I just kind of almost settled and kind of just rode it out."

But back to Tomac...what exactly has happened here? Well, the team started testing with him out in Arizona due to the rains in Southern California. They switched triple clamps for some flex, they went back to a spring fork and they developed a new link for the rear suspension that balanced the bike better. Tomac immediately liked it, stopped fighting the bike and we've seen the results. Asked why they didn't start the season with that setting the Kawasaki guys just gave me a look that says: "go away".

Jason Anderson has been up (podium) and down (DQ for punching Vince Friese multiple times), Cole Seely lost a shot at a podium in Oakland when he got some streamer in his rear brake. Marvin Musquin started off with two straight podiums but hasn't gotten the starts since and has even hit the deck, which is rare for him. Chad Reed's second was nice but four out of the five races he hasn't been a factor which has to bum him and his massive legion of fans out.

In the 250SX class, we started with Shane McElrath of the TLD KTM team winning the first two rounds but the last three has seen Justin Hill of the Monster Pro Circuit team be the dominant rider. Hill has clearly been the best rider in winning A2 rather easily, coming from the back in Glendale to pass McElrath for the win and this weekend, a mid race fall couldn't stop him from taking the win.

Along with taking the wins, Hill also took the points lead over McElrath and has all the momentum right now. A bizarre Anaheim 1 that saw Hill just sort of ride around in fifth has been forgotten with these latest rides. For the second week in a row McElrath had to go to the LCQ to make the main and for the second week in a row, he salvaged something out of it but he's dancing on a high wire with these moves.



But the win in Oakland was a bit unexpected for Hill. "I didn't ride at all this week. I tried to do a couple sessions on Tuesday and was like, 'we got to call it. I'm sick as a dog.' I was really worried about this weekend. I didn't know how much strength I'd have, how much energy I'd have," said Hill in the post race presser. "But when the chips are down you've got to do it. I just went for it. Tried the best I could, that track was so brutal. It was like all you could do was just try to get around it without... Eliminating mistakes.

When I was trying push it was almost like I was wrecking myself and after my crash even more so. I'm just thankful, like they're saying, to get out of here alive and with another win and the plate. That's amazing."

Rockstar Husqvarna's Martin Davalos podiumed Oakland but he's been his usual self this season, Pro Circuit rookie Austin Forkner has ridden like, well, a rookie with some blazing rides, heat race win but he's also made some mistakes. GEICO Honda's Jeremy Martin hasn't even been at the last few races as his 250SX west series has been a disaster. Yamaha's Aaron Plessinger? Very, very fast but if he can't start up front like Hill and McElrath then he's not going to finish with them.

So we're back to the "regular" series now that we thought we'd see. With Honda's Ken Roczen out, it's Ryan Dungey and Eli Tomac fighting it out and Marvin Musquin, Jason Anderson, Cole Seely and Cooper Webb right there. We're heading east now and to more standardized football stadiums and no worries about weather (the first five rounds have seen four pretty wet races) from here on out. Dungey's got 17 points and if he gets that any higher than 25, we could be looking at three straight for him. Eli Tomac has got other ideas and away we go!





SUPERCROSS: OAKLAND





Tomac gains incentive with his alternative approach to the first rhythm section of the lap. His chase and pass on Dungey was one of the action highlights of the fledgling 2017 season to-date

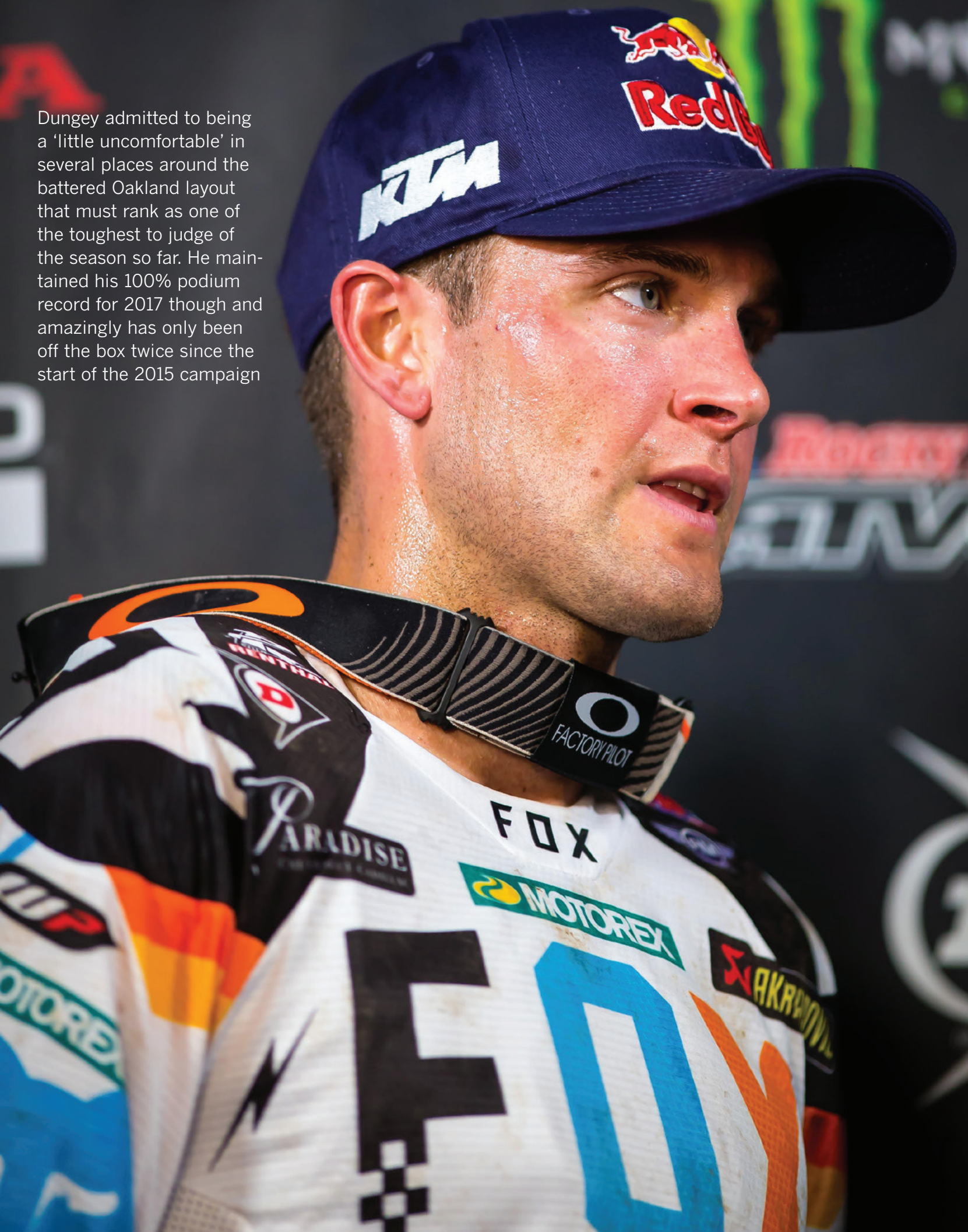








Dungey admitted to being a 'little uncomfortable' in several places around the battered Oakland layout that must rank as one of the toughest to judge of the season so far. He maintained his 100% podium record for 2017 though and amazingly has only been off the box twice since the start of the 2015 campaign





# 16 DAKARS UNDEFEATED

Winning once might be down to luck, but with 16 consecutive victories, KTM's Dakar domination is anything but circumstantial. With the READY TO RACE attitude and a massive team effort, British KTM Factory rider Sam Sunderland won the 2017 Dakar Rally, extending KTM's undefeated record. Congratulations to Sam and the team for this outstanding performance!

**KTM**



## CHOPS AND CHANGES...

By Steve Matthes

**R**ockstar Husqvarna made a sudden change for week five in dropping Christophe Pourcel from its SX/MX team and picking up Yamaha privateer Dean Wilson. Pourcel hadn't really performed in the four races with two missed mains and two sub-par rides but it did seem to be an early move. Wilson, out after two years on the Red Bull KTM team, was putting his own money up in the hopes of what happened eventually happening. He wanted to pick up a factory ride and out of his van, he's been solid, not spectacular, through the first four races.

Pourcel broke his neck last summer in the nationals, got a late start on his 2017 supercross prep and still has some lingering issues in terms of numbness in his hands. He's a rider that's had some serious injuries in the past and has expressed that it's harder and harder for him to lay it all on the line. So the team has decided that he's done with the USA racing stuff and will send him up to Canada to race the nationals there on a new Husky effort up north.

The team is trying badly to frame this as an injury that's not healed for Pourcel and I get that but to me, if CP377 was doing what he's capable of, he'd still be on the team. The plan to pick up an extra salary and more work for everyone is because of Pourcel's ineffectiveness on the track, no matter the reason why. Props to manager Bobby Hewitt, Rockstar and Husqvarna for finding a home for Pourcel and not just cutting him loose like some teams would've. The team expressed that 2017 was going to be CP's last racing SX and they were going to keep

him under the white umbrella and use Pourcel in Endurocross, GNCC's or whatever. To me, this just seemed really early to make that call.

**Chad Reed's** season so far has been up and down but mostly trending down after a sub-par Oakland SX effort. Reed scored an impressive second last week and seemed to indicate he found something with his Yamaha that would make it better from here on out. But then the rain in Oakland and soft dirt left him back to square one. On a perfect track this weekend in Dallas, it'll be interesting to see what he can do. So much of what Reed can do seems to be bike related these days.

Whether it's **JGR** Yamaha or JGR Suzuki, the guys there just can't catch a break. Or maybe they're catching too many breaks. The teams star rider Justin Barcia hasn't raced this year yet due to a wrist injury, the teams west coast 250SX rider Matt Bisceglia broke his leg and forced Phil Nicoletti to the west. Jake Weimer stepped in to fill Barcia's spot but then the teams lone highlight rider, Weston Peick, broke his wrist last week in the third lap of the first practice and will be out for a while. So it's Weimer, still with very little time on the bike, waiting for Barcia to come back and then Nicoletti for one more week. Although Phil is coming off a career best fifth in last week's 250SX main. Year in and year out the JGR guys look great, have good equipment, spend serious money to go racing and can't keep their riders healthy.





Malcolm Stewart, last year's 250SX East champion, left without a ride to start 2017, found some support from an online company and his brother James' SEVEN brand to get to the races. He missed the first two but has been at the last three with mixed results. He hasn't had real main event results to speak of but in typical Stewart fashion, he showed some serious speed and has made the main event in all his races straight from the heat. Fitness has been a bit of an issue as has crashes.

And it's been a popular return for a rider the fans seem to like and it's a very production-based Suzuki RMZ he's been on. After Oakland, a race where he rear-ended Dean Wilson in the middle of the main and went down, I caught up to a somewhat-frustrated Malcolm Stewart to get his take on the season so far.

**The track: I would never want to be out there on a motorcycle if it was me. It looked so gnarly...**

The track was actually pretty bad. I actually went down behind Wilson. I still don't really know exactly what happened. I think I tried to cut under him and I know I clipped his back wheel and that was it. I just made a mistake. I've got to stay off the ground, man. That's the biggest thing. But overall I actually felt pretty good. I tweaked my bike up pretty bad. It was turning left constantly. But no, we just got to get a little better and stay off the ground and results will come. Just keep this thing on two. I feel like I'm having a repeat of two years ago, not even last year. If I crashed this much I would have never

won the championship last year. I need to do something. I need to go back to old Malcolm, what happened last year.

**I guess the positive is that your speed is there. You're making it out of heats. You're racing forward. Yeah, you are crashing but I guess you're like, "hey, I got this pace, if I can just figure some things out?"**

Yeah. That's all I got to do. I have the speed. I'm starting to believe my speed's there. T I just got to put it together in the main event when it counts. In the heat race, three seconds in the heat race, it's good in that part. At least I don't have to worry about riding in the semis, but damn! I'd rather ride the semis if I'm going to get better results in the main event. But it's all good, though. We're trying. We're doing the best that we can. I know Dallas will not be this muddy, that's for sure. We'll get a nice, smooth, hard-pack track and we'll just keep moving from there.





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The Answer Elite line was designed to seamlessly blend form, fit and function into products that meet the demanding needs of motocross racers. High performance materials and features are combined with a refined fit to make a kit that is a necessity in any gear bag.



By Adam Wheeler  
Photos by Ray Archer

# GETTING A HEAD:

## A SHAKE-UP COMING FOR RACE HELMETS

PIONEERS OF IMPROVED, MULTIDIMENSIONAL HELMET SAFETY LIKE 6D, LEATT AND TO A DEGREE BELL ARE TO BE BUOYED BY NEW GUIDELINES FROM THE FIM THAT COULD MEAN MANY LIDS NOW IN START GATES OR ON GRIDS WILL NOT BE VALID BY THE TIME OF THE 2018 RACE SEASON. WE DECIDED TO DIG A BIT DEEPER...



GRAND PRIX HELMETS, PIONEERS & THE FUTURE





**F**or almost half a century motorcycle crash helmets have been making some hefty advances and since the first full-face models appeared on tracks and shop shelves. Everything from shell construction, liners, Expanded Polystyrene (EPS), visors, straps, vents, materials, moisture-wicking and general weight – not forgetting some fanciful design ideas – have all marched along with the pace of progression, technology and modern manufacturing methods. While a company like Arai – still family owned and fabricating their wares in Japan – may take pride in demonstrations where a man puts one of the company’s shells over his head, lies on the ground and invites another to stand on him to show the sheer strength of the composite, there has also been relatively little evolution in the rudimentary role of the helmet: an impact guard. Certification standards in Europe, the USA and places like Japan mean that a decently-priced product will normally offer resistance and performance far above the levels required to pass the anvil tests to get the shiny sticker. But it wasn’t until American company 6D launched almost four years ago that the wider performance of what a helmet could offer came into focus.

Their Omnidirectional Suspension addressed rotational acceleration and low, mid and high velocity impacts and the point at where concussion begins, not only the speed at which any collision would be fatal. It is basically an absorption system – thanks to a series of dampener between the liners – that addresses acceleration: when your head and brain moves out of sync with the rest of the neck or body. Some descriptions of rotation involve severe and fatal effects of the brain sheering away inside the cranium or suffering irreparable and tragic damage as the organ is battered inside its watery membrane. You might hit the ground but the contents of your head are still being rattled.

The ATR-1 off-road lid won awards and drew acclaim even if critics pointed at the high price and a perceived larger shell. 6D had made their presence felt in the industry - and beyond - and their work with the NFL Head Health Challenge for a sport that has come under intense scrutiny in the U.S. for the prolificacy and repercussions of concussion and head trauma has given their discoveries even more credence. Leatt picked up the gauntlet in 2015 with the unveiling of their GPX 6.5 and Bell also aimed for the same safety provision with their Flex system in the off-road Moto-9. Suddenly the big names looked as though they were being left behind. Over the past year the FIM has been working behind the scenes and with a wide gamut of manufacturers to address extra protective potential for helmets. It means that the lids with an official stamp to enter a Grand Prix gate in 2018 will have to do more than they current offer.

“We have been enthusiastic about requesting extra testing compared to that required by existing regulations in Europe, USA and Japan,” exclusively commented Erica Manfredi, PHD and FIM CTI Junior Coordinator. “The program was born to answer the need of an evaluation of the safety performance of protective helmet systems for racing. The aim is to define a new test standard, which is more up to date (biomechanics for head and neck, new inputs, angular acceleration, penetration), more severe (for racing conditions), with a higher degree of testing ‘randomness’ and with a possibility of an internal review when needed. Such a program would allow the FIM to better control helmets used in all competitions, track damaged helmets, rate the helmets with better properties and be able to identify counterfeit labels.”

“Eligible helmets for the program shall be ECE22.05/JIS T8133:2007/Snell M2010 (at least) homologated, so the FHCP does not intervene in substitution for the current existing standards but on the top of them.”



GRAND PRIX HELMETS, PIONEERS & THE FUTURE





"It is planned that the program will be active as from the 2018 season for all circuit racing disciplines, and in the near future for all the off-road ones. Perhaps a transition period will have to be envisaged."

Any motorcyclist looking to buy a new helmet knows there is ocean of choice. The general rule of thumb being: the more expensive, the better. The old '50p helmet, 50p head' maxim coming into play. Compared to normal considerations such as budget, reputation, colour and design, consumers can now think about extra safety benefits and that's largely thanks to the forerunners against the deadly and consequential effects of rotational acceleration.



6D's modest office space in Brea, a short distance east of Anaheim, California, belies the weight of ambition behind their products. The company number less than fifteen people but the 'rock' in this David's sling is sharp and has already rattled the Goliath that is the vast helmet industry and the notion that a lid will protect you from a bang and that's it. The first office we encounter belongs to 6D co-founder and creator of ODS, the amiable Bob Weber with a vice-like handshake and a very open and lucid manner of conversation. "I had a lot of awareness of riders who had been concussed or worse in motocross – myself included – and the helmets were not keeping up with the motorcycles and the sport," he explains. "I love this sport man, I have been in it since I was a kid and I have been racing for over thirty-five years, maybe more. I wanted to be here for my kids and their kids. If it gets to the point where humans cannot survive the accidents then the sport will just go away."

"Looking back it was a pretty big endeavour to come in and fight the giants with a different helmet and technology but I'm proud of what we have done. We have influenced the market and we've helped a lot of people and even if our helmet is not complete for every kind of accident - and I doubt there will ever be one - we have to keep trying, keep improving and making them better."

Further down the hall is partner Robert Reisinger; who brought the acute scientific and mechanical nuance to Weaver's vision. Putting the pair together to talk motivations behind rippling the helmet pool, finding a non-existent testing base, fending off the copycats and getting their message out there leads to a lengthy chat...





**Certification obviously means so much for helmets...so how was it to create something and address the issue of rotational acceleration when there wasn't any firm frame of reference?**

**Robert:** There are two basic defining tests [for helmets] and they don't look at anything else except to pass and that is the shortfall of the whole homologation process. We're talking about brain protection...not just skulls. The standards were created around the notion of what it would take to smash and crack a human skull and were developed with cadaver and comparable tests. There are very few companies in the world [that have this knowledge] until you step into the auto industry where they look at human body tests in cars and have had the right equipment for decades to look at all kinds of motion in the body. You have to shift the equipment from the generic stuff and the CE and DOT outline and into more advanced fields that leads into the Hybrid III products that are very expensive, and you need to knowledge to be able to process what you want to find out.

**Bob:** There wasn't criteria, right from the very beginning. We went to a company called Dynamic Research and they initially did not know what we were trying to test for specifically and we said 'we want to induce a spin, what do you think?' We distilled it down to a big pendulum machine where you could mount a head-form and swing and smash it into something. We said 'well, that's not really a motorcycle crash...' and it leaves a lot of 'noise' as they call it in testing. So we tried a full body pendulum swing and bounced it off an inclined plane and we got into the same situation of 'is this the right kind of impact?' because we wanted to see what was really going on with the helmet and nobody swings from trapeze strings and defies gravity on a bike. So we defaulted to some things we'd seen out there from other organisations. MIPS' [internal helmet component] information was out there and we ended up looking at the incline plane as it seemed the cleanest in terms of testing. We turned back to Terry Smith at Dynamic and began building new fixtures. We're using a standard ECE and the 10khz data machine that

will record it at the right rate – which is a critical part – and we started developing this process (that is still in a process) and right now the FIM is actively trying to define their process that people will have to meet to wear a helmet in FIM sanctioned circuit racing.

**Robert:** We had been going down a road trying to define 'how do we do this? How do we implement a testing protocol that will give us data so we can compare from one helmet configuration to another?' The next question is: 'is this real? Is this the kind of impact we see out there and is it adequate?' If you are a doctor you will want to know about it in terms of human biology. If you're an engineer then you will want to know the energy transfer. If you are a testing lab then it has to be repeatable for anybody else out there, whether it's a PHD or a knuckle-head they have to be also to go through the same path with a certain percentage of accuracy. Rotational testing is a bag of worms, it is not linear testing, which has been done for decades and is repeatable.

We are hearing that the ECE is closer to something as an optional standard. It will be interesting to see what they come out with and what protocol people can be measured by. Establishing that protocol is the challenge right now and so it is repeatable per helmet geometry and configuration because the shapes of helmets affect the spin impact, and in significant ways that are difficult to understand intuitively. You have to do it...and with expensive machinery like these Hybrid III head-forms and complicated data acquisition systems. And you have to be able to look at it in high-speed film to be able to see what is going on. We've done hundreds and thousands of tests with high-speed film where we have gone 'whoah! Why did the helmet hit the anvil and head off like that and didn't induce a spin?' Other times it will induce a violent spin. It becomes a very big challenge and if you have ridges and forms that affects the strike and sends the helmet into doing something entirely different.



**Arai seem to promote the use of a smooth shell to enable the helmet to slide...**

**Bob:** It is a good philosophy and we subscribe to the same one. In fact our shell is pretty conservative compared to some of the other ones out there but we also know that in today's environment you also need to have some kind of stylised helmet. Look at the Airoh – that thing is all radical angles. The Shoei also. That's what the market wants – or what they think it wants because they are not thinking about the safety aspect of the helmet.

**Robert:** Until we get the FIMs and AMAs of the world saying 'you cannot wear a helmet like that' then they will always be driven to something they sell. If a guy is looking at it from a sense of vanity instead of safety then you are kinda stuck.

**It's been three and a half years now for 6D; do you feel that you've trodden a new path?**

**Bob:** I think there has been an impact, and proof of it also. I was in Denver recently visiting some dealerships and talked about the same thing with a sales guy. I asked the question 'do you feel the customer is more educated now when they come in to purchase a helmet compared to three years ago? And he said 'absolutely everyone is aware of the 6D, everybody wants that technology' and unfortunately his comment to me was 'you guys are expensive...and the bulk of our helmets sales are well down the chain from where your helmet is priced...' That's difficult for us [to hear] because obviously we want it available to the masses but in one regard we are almost building two helmets to make one and that's the only reason why ours costs more money; it is more expensive to manufacture and produce. When you take a look at Bell, for instance, who had introduced their Flex technology and MIPS has been adopted into more and more motorcycle and bicycle helmets and Leatt have their own version – they put a dampener between the skull and the EPS as opposed to between layers – then the market has become a lot more aware of brain injury and they are

looking for solutions. MIPS is an easy one for a manufacturer because it really doesn't take up space in the helmet, it is relatively simple to apply and is not expensive to make.



**What's your take on MIPS? You see it in a number of helmets now...**

**Bob:** It works in certain parameters and does an OK job but it has no ability to manage linear acceleration or rotational acceleration the way ours does. Through our system being completely uncoupled and suspended it has the ability to displace three dimensionally wherever the impact comes from. For MIPS technology the ideal impact angle is 45 degrees and the closer you get to 90 the less effective it is because it just binds up on itself.

**Robert:** In an angular sense it is a step in the right direction and in the broad spectrum between zero Gs to the limit G – whatever that is, let's call it 300 – typical helmets protect from 150 upwards according to our testing. The EPS and the shell are tuned for that window of range and starts to suck up energy. If you are down at the level of 60 – which is the start of a concussion for an adult male – from that point up to 150 then you are not getting much protection other than the hard impact point of the shell and helmet which is still a hard smack into your brain. You might be protecting your skull but there is still a lot of energy heading into your brain and into the concussive range. That's the problem with helmets at a lower threshold and MIPS cannot do anything about that whereas the 6D technology does. I think



we are actually riding on MIPS' coattails because they have been out there a long time and they couldn't get any traction because people did not see the need for it. We are their best friends. We kick-started the industry and the thirst for knowledge for technology to put in helmets and what they were doing made sense. When we launched we had everybody asking us for licences and we said 'no' and they turned to MIPS as the only alternative out there and now MIPS is on fire.

***“The proactivity by the FIM and their increased safety stance has been the catalyst for a wider view on helmets...”***

**Bob:** Our helmet shape was very strategic so that we could round-out the outer surface of the inner EPS against the inner surface of the outside EPS to make it as much of a ball-and-socket as possible. That's one of the constraints in the MIPS system. Human heads are long ovals and with two directions of the x-y-z co-ordinates means it is not going to go very far before it starts to bind up on cheekbones or the corners of your cranium. In this direction – up and down – it will move pretty easily, just like when you put your helmet on you can shuffle it up and down pretty easily. But in the other direction you have to be yielding the EPS pretty good to be getting the additional benefit out of the MIPS liner and the energy is not high enough because you have a small, compact helmet. There are some real strengths and benefits to the Omnidirectional Suspension technology that nobody else has. Our system is freer and has more ability to do its work. Independent testing shows that. Our helmet is way-out in front for low energy compliance and for rotational acceleration. Bell gets close with their system on rotation but on

low energy we are pretty far ahead and this is exciting for us because we were the pioneers and the first ones to build something different in a helmet and in that shell environment and it is still the number one solution out there. We wouldn't have been accepted into this NFL programme if we didn't have something that was working and unique. Out of the hundred and twenty-five companies that applied for this programme their original plan was to choose six for more funding to continue their testing. They only needed twenty-one out of that group to show any kind of merit at all and they only picked five. We had to submit a test article, package a variation on the design that we'd been thinking about and file another patent. It is an evolution of our system that can be used in a multi impact environment. We are also the only helmet manufacturer that got into the programme and I think that alone speaks of the value of our system and what it does. I don't know if the market really understands – maybe we have not communicated that well! – but our ODS technology is a system that is designed to reduce the transfer of energy from an impact site at the shell to the interior level of where your head is at.



**How did 6D come along? Why did companies with five decades of experience not find this first?**

**Bob:** I think the standards just ask you to reach a certain level of energy. Everyone always talks about exceeding those standards, and well, you need to be part of the programme but maybe exceeding it by such a huge margin is not such



a great thing. Going back to the beginning...I was a pretty savvy mechanic and had a good understanding of things but I knew I needed somebody that could help me do it properly and that's where Robert came in. He was my first and only phone call. He saw enough merit in what we were doing to shut down his other business and join me in this venture. We had to go out and find the capital to start the company. We didn't have any staff and now we have eleven people here in our offices today and three more contracted. I look back at what has happened in three and a half years and its like 'holy cow'. When we were in the development phase not a day went by when I woke up and looked at the news and waited for someone to have discovered a breakthrough in motorcycle helmets that would address rotational acceleration! I couldn't have been the only guy out there aware of the problem! Anyway I was quite excited when we got to launch day and nobody else had said or done anything...

On the eve of the 2016 Monster Energy Grand Prix of USA at Glen Helen South African safety specialists and trailblazers in their own regard when it comes to neck brace technology, Leatt, are presented their 2017 collection, which included the second generation of the GPX 6.5 helmet. Todd Repsher, General Manager of the Americas, buzzes his way through a description of a product that has also caused a stir through a condensed shell dimension that allegedly reduces forces transferred to the neck. Leatt's wealth of knowledge and research gathered from their inroads into neck protection cannot be understated and when Repsher advocates that the GPX (that hits a similar 600 dollar price point as the ATR-1) brings "up to 30% reduction in concussive level forces and 40% reduction in brain rotational forces," then the claims come with a degree of validation. The GPX involves a 360 turbine system and similar principals to 6D. "MIPS and the Bell Moto-9 Flex is a brilliant concept too," Repsher comments when we ask about the tendency for some firms to look around and then look

internally. "I think we have all been chasing this thing. We have been working on this for several years. 6D is a really good concept. We are inviting a new focus area and it's good for everyone."



"In the Lab in Capetown the focus was on neck braces but we were destroying a lot of helmets! They started learning other things from all the data and tests they were logging," he continues. "Helmets is a serious subject. It isn't an area where you just 'dabble'. It takes a whole brand commitment and tremendous resources. We brought in a whole different team of product engineers. It was a committed direction from the brand."

Leatt also echo concerns over shell form and effects. Any hint of gimmickry in what is perhaps the most voluminous segment of the motorcycle wearable market is instantly dismissed. "We are not fans of the camera mount and why we have such a focus on the breakaway visor. We tested a lot and do not want anything that can add to rotation," says Repsher. "We are a protective company and as we grow we want to enhance the rider's experience. The helmet is an emphatic part of a rider's kit. If we can better or enhance the helmet market and the technology on offer then that's really the ethos of our company. I don't think there is a fear of the market saturation because we don't just step-in with something that has our logo."



## GRAND PRIX HELMETS, PIONEERS & THE FUTURE

In the same way that Leatt launched the GPX neck brace ten years ago and waded into a murky pool of litigation with other companies eager to replicate and exploit the new awareness over neck protection can 6D look at the next originations of helmets with some trepidation or frustration?



“At the end of the day it’s a good thing because the market needs it and every helmet needs better protection than what they’ve historically had...at least until three years ago and for two of those years we were the only game in town with something significant to offer,” says Weber. “I do think it is good that other manufacturers have gone back to the drawing board to improve their systems. In our evaluation some of those systems do certain things better than a traditional helmet design and some of them – depending on the impact or the type of test – don’t actually do much. That’s where the consumer really needs to think. We have been criticised a little bit for the overall volume or size of our helmet but [in a crash] then you want to stop over the longest distance possible when you have an impact. You want that distance and time to be maximised. If you have a very compact shell like a lot of the European helmets you’re giving up that ability. In order to manage the energy the EPS density goes way-up and when that happens they are less effective down where they need to be to address concussive loads and protect the brain.”

The fact that newcomers like 6D and Leatt are rallying against far bigger and much more established companies is one indication that technology to combat brain injury has grounds and is possible. That Bell would invest considerably to come up with their Flex system (a tri-matrix construction – three layers essentially) means the tide is starting to turn. Now that the FIM is throwing the spotlight on the biggest promotion window for apparel brands – internationally sanctioned racing – an element of ‘hurry up’ has been put into the mix for the rest of the market to follow or co-innovate. “I liken it to the rise of GoPro and how they walked under the traditional camera manufacturers,” Repsher offers when asked how the likes of 6D and Leatt were able to usurp the competition. “The big helmet companies do seem slow to the game but I wouldn’t dare that they have the resources and abilities [to match their competition]. It is like Honda; they wait and when they come out with something then it’s good.”



“Many helmet manufacturers already have this kind of R&D in mind, they also want more modern standards,” says Manfredi, almost to dispel the idea that the FIM are doing their own form of pushing. “I have been speaking every day with the manufacturers and we are ready to collaborate to officially open the applications toward helmet homologation without imposing too tight timelines.”



"It is very exciting because of that direct contact with the companies and there is a lot of willingness there to make a big effort behind what we are doing," she adds. "It is also a challenge from my side because there are many different manufacturers; some use a more modern approach, some less so, some are small, some are very big. They all have different cultures, practices and even philosophies. I've had some intense and long meetings and have been very keen and open to let everyone have their say and express their needs."

"Then you have some brands that are already moving ahead. Like 6D, just to use an example. There actually isn't even any standards or method that can fully certify what they are doing. The helmet industry is working to ten year old standards, at least in the case of the European road homologation."

The rush to bolster a helmet's spec list and capabilities is also something that the guys at 6D are a little wary of. "Consumers can get confused by what is essentially a watered down concept," says Reisinger. "It looks and smells good but ultimately it won't do the job. I'm afraid that consumers will buy one of these helmets, go out and get hurt and then think 'well, that didn't do any good why am I buying these more expensive products? It is all bulls\*\*t and smoke and mirrors'. We've had our helmets out there long enough that we've had tons go through crashes and come back to us with reports - because we cannot test with humans - and we've had feedback from people with reported cases of concussions saying their threshold had increased. It is anecdotal and it is not scientific, and it is difficult for any kind of organisation or company to gather that kind of information, but we have enough feedback to know that the system is helping the biology of people to tolerate and sustain less injury for given impacts."

"If you look in a helmet and it has a MIPS then that's what it has," he adds. "If it has an EPS and some other soft stuff then it is probably not going to do much for you. If it has something that has been thought-out more then it should be a step in the right direction but that direction is a very vague issue that has not been defined."

"Most considerations - DOT, Snell, ECE - and the velocities and numbers they are testing at mean you are sustaining brain damage. The brain is mush. It is only a matter of how much damage you get based on the helmet, time and velocity that you hit."

Quiz 6D on future developments and they coyly talk about their bicycle helmet that features a modular system of ODS and is manufactured by a different vendor in China. There is also talk of reducing production expenditure to further benefit the consumer. "We need to simplify and reduce the costs of the technology in the motocross and street helmet, which is pretty much identical," reveals Weber. "The tooling to do those two helmets is very, very expensive and the slow-down on the assembly line and the number of parts involved all adds-up. The in-moulded modular system is a little different in design but with some nice benefits. I think you will see some evolution of that coming across to motocross side."

6D were keen to establish the brand in specialised fields such as motorcycling and cycling and thus will not licence their wares in the same way that MIPS has tended to crop up with different brands like Fly and Fox. It means turning away from sure-fire money-making opportunities but then also means they can fully extend the possibilities of their ideas within their own remit. The work with the NFL is a potentially massive project and association and both Weber and Reisinger are visually excited about how further funded research could take helmet safety to newer dimensions.



## GRAND PRIX HELMETS, PIONEERS & THE FUTURE

“Everything we are learning for this Head Health challenge is paying dividends for the motorcycling and cycling side,” stresses Weber.

“Overall we are aiming for the broadest range of protection we can establish,” adds Reisinger. “It is not just ‘pass’ and let’s sell it. It is about how much we can lower the threshold...two metres per second, three metres per second, four metres per second: nobody else considers this or how we can look to areas where concussion is induced. There is a ton of protection that is required and needed. The medical profession is screaming about protection for below the threshold of the critical death-blow. It is something we still need to be trying to improve.”

The proactivity by the FIM and their increased safety stance of recent years has been the catalyst for a wider view on helmets that was already aroused and piqued by the work of people like 6D, Leatt and Bell. In the space of a season it will be an even more prevalent subject when watching at tracks or through television screens. Romain Febvre and Pauls Jonass were just two factory riders that had their 2016 seasons thrown to the mire by accidents that involved concussion. Head injuries will undoubtedly be a factor in motorsport – gravity is pretty much unbeatable – but encouragingly there are people dedicated with a clear vision to ultimately end up keeping your vision clear.





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## 6D HELMETS

Following on from this issue's delve into 6D helmets here is their ATB-1T Trail helmet and the first 3/4 lid from the Americans with their ODS technology. The difficulties and merits of placing the system in a non-full face lid (there is a downhill version) have been talked about by both Robert and Bob in the feature story but this helmet deserves attention for what has been achieved. 6D call the ATB-1T an 'engineering masterpiece'. They also state the 1T (2 EPS liners separated by 27 dampeners): 'reduces angular acceleration energy transfer by means of the 3-dimensional displacement capability of ODS when subject to impacts. Low-threshold energy accelerations are also dramatically reduced providing a more forgiving helmet over a much broader range of energy demands. There is simply no other helmet technology that can offer the athlete these combined safety benefits. This helmet is suitable for all types of cycling use!' There are four different colour schemes and M/L sizing. It will cost around 225 dollars.

[www.6dhelmets.com](http://www.6dhelmets.com)









By Eric Johnson  
Photos by Monster Energy/Ryan Swanberg

# 17 LAPS AND THE TRUTH **JUSTIN HILL** SPEAKS



JUSTIN HILL





**T**he 2017 Monster Energy Supercross Series marks Josh Hill's fifth in the 250SX Regional division. And while there have been flash-bright moments of excellence - wins in San Diego and the East/West Shootout in 2014 as well as a triumph at Toronto in 2016 come straight to mind - as you're about to read, it's not really where the 21 year-old from Yoncalla, Oregon wants to be. Like his older brother Josh (from 2008 through 2015) Justin Hill wants to be a 450cc competitor. To get there, at least to his way of seeing things, Hill needs to not only be a consistent winner in the 250cc classification, but a champion as well. And so far, so good. After placing a somewhat blasé fifth at the curtain-raising round at Angel Stadium, Hill stormed back from an off-song start at Petco Park in San Diego to nearly pip Shane McElrath at the finish line. Then on Saturday night before a packed house at 2000 E Gene Autry Way in Anaheim, California, it all came right for the Monster Energy/Pro Circuit/Kawasaki rider stamped his authority on things by winning convincingly over title antagonists Aaron Plessinger and McElrath (since going on to add to that total). The day after what was a 17-lap race, Hill spoke about the win and immediate and not too distant future.

## **Anaheim II was a big win; how did you feel about it in the aftermath?**

More than anything, I just want to keep doing it. I kind of knew we could do it when I came up and almost beat them from way back [in San Diego]. I didn't want to be thinking could have, should have, would have when I woke up today. As far as being excited about it, I am, but I'm more excited about doing it again, again and again and trying to win this championship.



## **You raced to fifth at the opening round at Anaheim, but some people who work closely with you believed you might have gotten a little tired during the final laps of that main event. At round two at Petco Park down in San Diego, you got a bad start but charged from way to finish a hard earned second. Thoughts?**

This season, and not a whole lot of people know this, but it's probably the absolute least amount of time I've had on the bike before a season began. Not a great position to be in when you want to win the thing, so when I came in fifth on the first night, I was like, "Man, it's a bummer, but it's something we can build off and do better." I honestly didn't think I could get enough work in before the season started. I made every day count. I made every single day count from the moment that I got that fifth place. I said, "We can do this, it's just going to take a lot of elbow grease." I've been working real hard every single day since then whether it's on the track or working hard in the gym, it really paid off last night with getting a win. That was rad and that was the step that we wanted to take towards the whole deal, but it was tough. It was really tough to get there.







JUSTIN HILL

**Was San Diego and that comeback confidence-inspiring?**

San Diego put me in a good mental place. I took that race as a: "I just came from way, way, way back and almost beat these guys. There is no reason why I can't beat these guys straight-up in any situation. If we are ever up there at the start, just run away and forget them." Sometimes it works out really easy for you and sometimes it doesn't work out that easy. Last night it worked out easy. At San Diego and the way I was riding that day, to be real honest, I felt way better all day than I did yesterday at Anaheim. I felt terrible. You don't want to tell anybody because you don't want to put it in your own head and bring it up, but I didn't feel great all day. Then when we lined up for the main event and the flames were shooting out above the gate, I thought: 'well, this is for points so it's time to put it up.' That's just my mentality when I show up to the line. San Diego should have been a win anyway, but it was a confidence booster knowing that I could

come from way back and do it. I think from that night on I now know where I'm at. I don't have any doubt in myself, I don't have any doubt in the bike and I don't have any doubt in my physical ability.

**How was it to come rolling back into the pits at Anaheim II to meet Mitch, your mechanic Shawn, and your family?**

That was so cool. My mechanic Shawn, he's the man and he's with me all the time and he puts in such good work and I couldn't ask for a better guy. Mitch, obviously, has been a longtime supporter and he's given me another chance on this team and I'm so grateful for that. Not too many people get the opportunity to ride for him and then ride for him again I was a fool to take off from him in the first place. I have a lot of respect for him and I really, really want to fill that empty spot on his door with a number one plate. I think that would be one of the coolest things to do for him.







JUSTIN HILL

**"I'VE COME TO UNDERSTAND IT A LOT MORE;  
[HAVING] HEART IS THE DEAL BECAUSE EVERYONE  
FACES ADVERSITY IN THIS SPORT. THERE IS NO WAY  
IT WILL GO YOUR WAY EVERY SINGLE TIME..."**





**The last race you won was at Toronto on March 12, 2016. Cool to win another one?**

Yeah. As far as the wins go, I got home this morning and I grabbed my trophy and I grabbed my bottle and I got everything hung up on the wall. I've got four now including the shootout and thought, 'that's all cool and it feels good to have accomplished these things, but there is still something SO missing'. As I get older and as I get better and as I win again, this win is less and less important to me than the big picture which is to be able to show everybody that I am consistently a good guy. And truthfully, it's also a little bit of a mixed emotion for me because while it's great to win in the Lites class and it's great to show everybody that I'm still around, the Lites bike isn't my bike. I want to win this thing and I want to get on a big bike because I think that's my bike. It's a little bit of a mixed emotion just because I just want to move forward from it. It's not that I don't like this class, it just means I want to win so I can kind of move away and get in the big boy class.

**There has been a lot of chatter in the past few years of how good you ride and race the 450. Being determined to move up to the premier division, what is the battle plan you Mitch Payton, your brother, your trainer Johnny Louch and your family have sketched out for the rest of 2017?**

The battle plan is the same as it has been. Like I said, I didn't really have a good go from the beginning, but I just think this is the year. I'm older and I've learned a lot and have been through some things - and not all good things - and I just know that you have to keep a certain mentality throughout. In past years when I had the ability and when I had the speed and I had the fitness and everything was going right, I don't think that I gave it everything I could have gave it. There was a lot left on the last four years coming into this one. I think that moving forward for the rest of the year the game plan is to keep this mentality that I want to win every single time I ride and that's it. If I can just keep that mindset I don't think

that we're going to have a problem. I think I'm good enough and I think we do a good enough job and me and the whole team have a good thing going. I have good thing going with my mechanic and I have a good thing going with Johnny [Louch] and we're really in-tune on what we think and we agree on a lot of things. I also have a good thing going with my brother and my dad where they are constantly telling me what they think I can do better on the bike and that's extremely helpful to me. Moving forward, it's on me: I have the best the stuff, I have the best people. It's all on me because it's how much work I want to put in and it's how much I'm willing to gain and to get. When there's 25 points to be gotten, I'm going for it. That's what I have to do. That's what I have to think about all the time. That's what Dungey does. These guys that are all successful, you look at them and that's just because they want to win. These guys are persistent and they do what they have to do to win.

**Heart and determination is a very big part of being successful in this sport, isn't it?**

Oh, it's everything. As a kid growing up watching the sport, you knew the guys who were stubborn and who had the will to continue to battle everyone and you also knew the guys that didn't have the so-called heart and would pull off if something wasn't right. Especially now as I'm older, I've come to understand it a lot more. Heart is the deal because everyone faces adversity in this sport. There is no way it will go your way every single time. Look at last night. One of the best guys in the world took a gnarly crash out of nowhere [Ken Roczen]. It's never going to go your way every single time so you just have the heart and continue to push.



JUSTIN HILL







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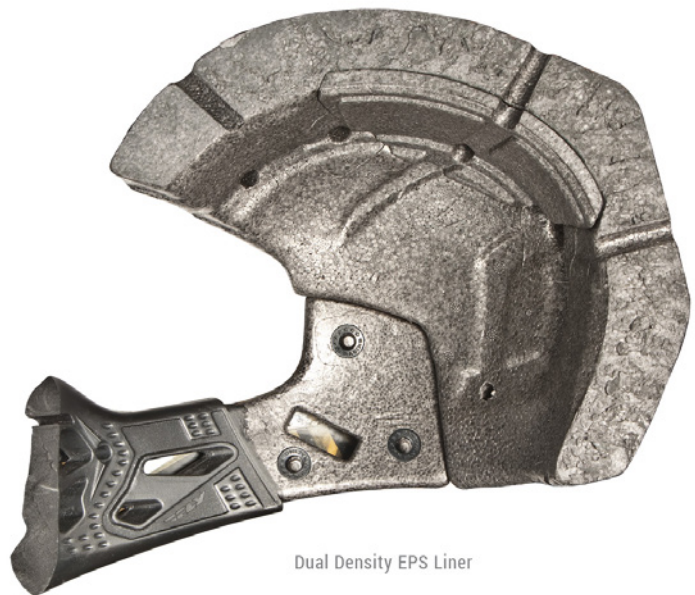
## FLY RACING

Fly Racing is a company that extols the virtues and value of MIPS and have installed the technology in their F2 Carbon lids, both Replica (Canard, Teal and Peick versions) and Retro-spec (with five different colour schemes). The F2 weaves Carbon fibre, Kevlar, Coolmax as it's three chief ingredients (the latter being quick release and moisture wicking) and the former two are aircraft grade woven for the shell to coat the dual density EPS. 11 intake and 4 vents mean an effective airflow and Fly claim 'quad-vent goggle anti-fog vents above goggle eye port draw air from goggle to help clear away fog.' With MIPS in place the F2 has a list of specs to demand attention in the dealership and the final factor – the look – is also pretty nailed-on (our preference is the Purple/Neon orange). Expect to pay around 400 bucks.

[www.flyracing.com](http://www.flyracing.com)







Dual Density EPS Liner



# A SENSE OF EXPECTATION...

By Adam Wheeler

Looking at the potential and limitations of crash helmets, particularly in off-road, has been an enlightening experience over the last six months and since we were able to visit people like 6D, Fox and talk to other companies at events like the vast EICMA show in Milan. Being able to understand at greater depth just how many resources and the swell of investment that goes into the fabrication of these products also forces a sense of frustration that some firms just don't seem to take their role as helmet manufacturers with similar gravitas.

Working in the motocross paddock permits access to athletes quite unlike any other bike sport. In the search of news, an update, quotes or merely information, it's not uncommon to stumble upon a rider slumped in a chair behind a screen in the team awning with his kit strewn about. Braces, tape, bandages, booties, chest protectors and various other bits are often splayed like the remnants of a dissection. Moments like those also permit close-up appreciation of race helmets, frequently part of the post-race melee. On more than one occasion I've thought how light, perfunctory and perhaps ineffective the majority of lids actually are. There were even stories of how one factory rider in 2016 had taken his Italian branded helmet and had begun to personally cut away at the first layer of the EPS, so poor was the fit. If you look closely there are even some racers in the premier class using a helmet from one brand while carrying the name and decals of another!

There was always a subconscious feeling that a light helmet – while carrying an obvious advantage (somewhat nullified if the rider was then wearing a neck brace) – just wouldn't do the job of impact protection as a slightly studier and more expensive (more established?) rival. The investigation into concussion causes and prevention as well as rotational acceleration has laid a marker in the industry and now riders everywhere know that there are means to increase the level of protection for such a vital area.

Our exclusive talks with the FIM on their work towards a new helmet standard for 2018 were naturally cagey. The team in charge of the motion and those talking with what is arguably the biggest apparel section in the motorcycle industry are well aware that any forceful moves towards helmet homologation is a delicate matter simply from the amount of firms and people that could be affected. However it was entirely encouraging to know how seriously the FIM are taking the subject of helmet performance 'upgrades' and I hope their discussions and recommendations do not get tied up in 'tape' or bent by political pressure to actually have repercussions to what we see on the grid/gates and what then makes it into the shops. It is also an education process. Helmets A and B might look better and cost less but should they really be considered ahead of helmets C and D that have more propensity to keep the grey matter murky? Beforehand choice for the consumer came down to brand name, fit, composites and maybe some





EPS trickery. Now there are more questions that have to be asked and every rider is the better for that extra indecision before the credit card comes out.

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The motocross season is firmly underway with the three round Italian Championship now almost run and Hawkstone Park providing a chance for Kawasaki and Suzuki to dirty new plastics for the first time in 2017. Despite the reawakening of competition it still feels like a long drag to the launch of MXGP. The winter might have outstayed its welcome or maybe the absence of a visit to supercross this year has had a prolonging effect. I believe the anticipation to get-going with Grand Prix also has something to do with hype. For two years now MXGP has been rocked by incident and accident, and the coronation of two virtual 'outsiders' in what were many people's tip for the top. Since the fuss around Ryan Villopoto in the formative months of 2015 MXGP has promised much but not quite scratched the roof of that expectancy.

Oh how to imagine the likes of Desalle, Cairoli, Nagl, Strijbos all healthy and hunting, along with the challenges bound to emerge from Gajser, Febvre, Bobryshev, Paulin, Tixier, Simpson, Searle and co. Every member of the MXGP pack will face their travails and pain in the thirty-eight moto starts that lie ahead but I simply hope that as many athletes at hit their peak at the same moment for the longest time; not too much of an ask!

And Herlings? I wouldn't be surprised in the slightest if he wins both motos and dazzles at Qatar a la Gajser almost twelve months ago. Sorry Jeffrey, but I doubt your MXGP rivals will easily accept another 'rookie' handing them a lesson in 2017. It has to be – and I hope it will be – a much tougher run for the guy that eventually has his name on that FIM medal come October.







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▶ JUSTIN HILL





## PRODUCTS





# DRY BROW

Right. An alternative to all the ladies hygiene products seen discarded in MX track paddocks. Dry Brow have been around for a couple of years now and their product versatility extends to any helmeted sport – they cite cricket and showjumping as just two of the disciplines on their clear and presentable website. We've not been able to test the product itself but we know of several MXGP athletes who swear by the absorbing material and who even double up. The strip is self adhesive and for those who don't sweat so much then each unit can be used two or three times. More information can be found at:

[www.drybrow.com](http://www.drybrow.com)





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FEATURE





FUELLED APPAREL, INDIAN & COOL

*Clothing*  
**Indian**  
MOTORCYCLE  
*Established 1901*

By Adam Wheeler  
Photos by RB

BIKE RELATED APPAREL AND FASHION: IT FEELS LIKE IT'S EVERYWHERE. NON-MOTORCYCLISTS ARE INDULGING THE RETRO/AUTOMOTIVE VIBE ASSOCIATED WITH TIME-HONOURED BRANDS LIKE INDIAN AND TRIUMPH WHILE BIKERS HAVE PROBABLY NEVER BEEN ABLE TO LOOK COOLER. AS ONE OF THE MAJOR PLAYERS PROVOKING THE FASHION INDUSTRY'S GLANCE OVER TO BIKING, **FUELLED APPAREL** HAVE HAD A SIZEABLE ROLE TO PLAY. WE WENT TO LONDON TO MEET CEO **IAN O'REILLY** TO ASK ABOUT THE SCENE AND BEING SEEN

# MAKING THEIR MARQUE



**W**hether it's Triumph, BSA, Indian, Deus or another staple of cool within motorcycling, the ability to 'look the part' through both casualwear and practical riding garments is pretty damn expansive. The presence of bike brands into the high street and the proliferation of quality clothing goods with companies more renowned for their two-wheeled prowess and history has also been distinctly noticeable since the start of the millennium.

The resurgence of Indian since a re-birth with the Polaris group has arguably as much to do with shrewd dissemination of the brand as the strategic moves with their motorcycle range and renewed ventures into sports like Flat Track. In the last two years Indian apparel has boasted the same high-class and desirable look as – for example - the collections utilised by Triumph to so aptly support the burgeoning British firm.

It was a curiosity and quest to find out who was behind the stream of clothing that led us to the light and airy offices of Fuelled Apparel in central London. The company, headed by Ian O'Reilly formerly of Triumph and now a cog in the vast Polaris empire, has been creating rafts of products and accessories that have become hard to ignore in dealerships, showrooms and soon to hit U.S. shopping malls.

From design to fabrication from influence to inspiration: we were glad to steal some of his time between regular trips to Polaris HQ in Minnesota, and were joined by Design and Development Manager Fanny Cheung to talk about how Fuelled provides manufacturers with a potent promotional arm away from the machinery. 'I started working with Triumph back in 1996 and was looking after the clothing, the merchandising and the licencing,' O'Reilly explains of his background. 'I was there for fourteen years and saw a helluva lot of growth and different aspects of their development. When I decided to leave my wife was

the one who actually told me that I should do the role for other people. I was a bit sceptical and she really pushed me to do it. Our first client was Polaris and they had the Victory brand and were in negotiations to buy Indian. They asked us to do a study about Victory apparel and how to structure it differently. That project ran for about three months and we got on very well and the acquisition of Indian happened in that time. It was brought into the company and about twelve months later I had the call and we started working together. In the meantime I did some work for Suzuki and Akrapovic...'

**Is it daunting prospect to think and take on a brand like Indian? Simply because of the history and heritage involved?**

**Ian:** True. I think all of the brands we work with – or have worked with – are all a bit different. The depth of heritage can be vast with Indian – and also Triumph – but it depends on where they want to go with it. Indian had a very clear idea of the percentage; it was about 70% heritage with the other 30% on modernity and they would then evolve it over time. When the marketing departments are very clear about where they are and where they want to go with the brand then it makes our job a lot easier. If they can say 'this is what our customer should be', 'this is who will ride the bikes', 'this is how we will talk to them' then all these details and aspects help with our development.

**If you go to any show or dealer it does seem like the merchandise or apparel for a company like Indian or Triumph is as attractive as the motorcycles themselves...**

**Ian:** When I started at Triumph we had more stock than sales, so too many bikes, and when I left I think they were not too far short of 50,000 so I saw that massive growth. And I saw the dealers change as well. Beforehand the bikes were quite bland and similar to each other and then we had the re-branding and the orientation to stick with twins and triples and once you start to get that really clear definition of where you are going as a company, what the





bike stand for and what the customer is going to be like then translating that to clothing becomes easier.

**What about this trend towards a custom/retro/café racer vibe that has helped nudge motorcycling more in the direction of the mainstream in the last decade...?**

**Ian:** Like you say, I think it is about ten years now where I have seen this division of, say, a supersport rider who will want his one-piece leathers set or to look like his racing hero and a massive group of riders who want motorcycling clothing that doesn't look like motorcycle clothing. And that's because motorcycling is part of their lifestyle and not something that defines them. I think what we are seeing now with the café racers and the Bonneville, Scouts and Ducati Scramblers coming through are people that are on the bikes but don't want to look like a biker...and that totally fits with what we are doing with Indian.

**Talking about Indian specifically was there a very particular brief or were you able to get quite creative independently?**

**Ian:** With any client we work closely with their marketing department and their new product development group. Fanny and I were in the States a few weeks ago and we were with Greg Brew, head of Industrial Design, so we were looking at bikes that will be coming out in four-five-six years time. OK, it doesn't take that long to do apparel but we also need to know the direction of the company. We're working on products now that will be delivered to market in about eighteen months time. If it is more complicated then it will be two years. So we need to know where they are going. In terms of the briefs they give us then they might involve specific colours or logos we can use.

**Fanny:** Or font styles...

**Ian:** But if we get good bike or brand information then we can easily translate that into good clothing proposals or mood boards to give back to them. We can articulate it in a way



that they can see visually. It can be quite tricky to show people in the industry that might be engineers or from specific automotive background clothing and to expect them to know exactly what they want. They can express their desire for what they want to see and then it is our job to give that back in a form of clothing.

**Fanny:** [shows a collection of imagery] This is the mood board we did for Indian 1901 and a project launched in July 2016...we have a core Indian range that we sell through dealers and the network is probably about 350 worldwide with 180 in North America and then this 1901 collection is something that will be sold through department stores and retail starting in the States.

**Is the notion of general retail another hurdle to face for you? Being in the High Street as opposed to just the eyes of motorcycle customers and fans through a rack in a dealership?**

**Ian:** Well, something like Deus [Ex Machina, custom brand] is now being sold through Nordstrom and fashion stores outside of the motorcycle world and we think Indian in particular – because of the awareness and art around the brand, the history and the look – can work outside of motorcycling.

**It does seem strange that Indian has not been licenced to a fashion retail group...you can see things like Triumph, BSA or Norton t-shirts and so on the high street...**

**Ian:** There was an arrangement to look at the impact of having a presence in the mall with a company called Lucky Brands and the Indian t-shirt quickly became the second best selling garment in there and ahead of others like Ford, Bob Dylan and Steve McQueen. It did really well and the idea was to 'prove it' there before doing it ourselves.

**If you look at Barbour with their McQueen licence and collection...are there any lessons to be learned from that kind of affiliation?**

**Ian:** Yeah. I think you can look at Barbour and McQueen and even what they did with International. You can look at Deus as well and I believe they were actually the two examples we used when we addressed the board at Polaris.

**What about the fact that Fuelled, a British company, are handling such an American brand...?**

**Ian:** It is interesting when we go to the States because the people there [at Polaris] think it is strange that we are in London, they are in Minnesota and production is in Iowa! It is true that Indian is steeped in Americana with this great heritage...but you cannot live within that. You have to be global and one of the advantages we have is being able to give that perspective. For them to grow internationally then they need that. It is great that they decided to work with a company based in London but I think they saw how well we did with Triumph and they knew that they'd have to do things differently for success with Indian.





**FUELLED APPAREL, INDIAN & COOL**



**“WHEN I THINK ABOUT INDIAN THEN SOMETHING LIKE THE BENJAMIN JACKET – NAMED AFTER BENJAMIN BUTTON AND SOMETHING SIMILAR HE WORE IN THE MOVIE – IS JUST IDEAL. IF CLOTHING IS ON-BRAND THEN IT WILL BE ACROSS THE TERRITORIES AND THE COUNTRIES...”**



**What about the vendors? For a customer to buy a 20 dollar t-shirt is one thing but then a jacket or some boots are a much bigger investment...and it seems that across the Indian range the quality is faultless...**

**Ian:** I'm glad you say that. Clearly what we sell is branded merchandise: it is for fans of the brand and that could mean a t-shirt or a five hundred dollar jacket. The logo is very much at the fore...but saying that we don't just brand-stamp anything. It's not like we go to a factory and say 'nice jacket; we'll put a logo here, here and here'. It is never off-the-shelf. Everything is bespoke.



**So the process is...?**

**Ian:** For every article we'll have design briefs. We have two collections a year in the core range. So we start with the brief and decide what we want to put into the range. We do mood-boards and then show Polaris and make sure they are happy and it is in-fitting with the 'direction' and we are on-brand. Then we'll make initial designs and get feedback on those, run them by the legal department to make sure they are happy and then we'll go to first samples. When you asked about the

vendors, the scope is vast: we'll use someone that makes t-shirts in Los Angeles through to a company in Vietnam that makes the jackets. Actually in that case it is the same factory where Alpinestars [products] are made in or [a place] I would know from my Triumph days. The casualwear is made in the same factory as goods by Diesel so the level we are at is very high. Footwear is a new category...but there is a lot of change going on with CE marking and certification.

**Such as?**

**Ian:** France is leading the way with this but basically if you have motorcycling protective clothing or items with panels or other components then they need to be CE tested. There is a hell of a lot of testing involved in terms of the materials, durability and performance. So with our boots – instead of going to a typical motorcycle factory - we have gone with a casualwear factory for a different look and feel. We are now working with them to get their standard up to achieve that motorcycle CE mark. We designed the boot from scratch, so the leather and the grommets, rivets, labels and every aspect of it.

**Fanny:** In terms of designers we'll work with very different people and specialised in different categories; footwear being an example and we'll have a guy that is only working in this field, not casualwear as well. Each category is very specific in materials but also drawings and design knowledge with regards to dimensions on the product itself. We have designers from the U.S. to the UK to Asia and France for the helmets.

**Ian:** We probably have eight different designers for these categories and it is all managed from here. It is a challenge. We spoke about consistency from the brand but we also have to make sure that is very clear in the briefs that we create for the variety of designers and that the overall output fits together as a collection. **Fanny:** Here we are like a 'server': all the information is 'blinking' and we have to bring everything together to create this collection.



**Would it be easier if it was all in-house or is it nice to have that diversity from external people?**

**Ian:** It is interesting you say that because we constantly have that debate: how many more permanent designers should we have here against the balance of having external staff? It is something we always talk about but at the moment I think we have it just right. We will see going forward because if we have more clients or more requirements – such as footwear growing even more – then we'd need to look at it again. One good thing about having freelancers or specialists is that you are able to keep things quite fresh.



**It must be quite a headache to have a revolving spin of briefs, feedback, dialogue, samples and meetings going on...**

**Ian:** It is. We are normally working on three collections at the same time: delivering one, designing another and planning a third.

**Fanny:** The seasons overlap and you have to keep a careful eye on it. You will spend months talking about 2017 halfway through 2016; so it is like you are always living in the future!

**Ian:** With more brands the demands increase but we have done work with BMW on their riderwear and we have a separate person for that, who works on a very different calendar to Indian. With Indian and Victory we are fully immersed. For other brands it might be less so. With BMW they will give us a line drawing and we'll go away and create tech packs. They will give us a look of what they want for the garment...but we will design it.

**Do the designers differ in the way they work?**  
**Ian:** Not really...

**Fanny:** I don't think there is anyone that instantly hits the right design. That's why – like Ian said – it is important to understand the customer, what they want, what they wear and are using, what kind of lifestyle they have and that comes down to the product developers here. They then develop the brief to say to the designer 'this is what I am looking for and perhaps this is the material we need'. Product development is different to design in that these specialists have more knowledge about the materials and a feeling for something tangible. Designers tend to work mainly with drawings. We have to check that their drawings are actually feasible for production; we are not making art! It has to be workable for sampling and then deliverable to the market and will not fail the customer. So the Product Developer is the one who really briefs the designer and when the ideas come back they have to judge.

**Ian:** They are the 'filter'. We don't revert everything back to the client. A design is really three elements: there is the drawing, the fabrication and then the fit. So when those three things come together you have something that is right. It is something that the Product Developer needs to manage.

**Fanny:** The designer won't worry too much about the fit. That is something the 'PD' has to do after sampling and make sure that the shoulders fit well and the waist isn't too big. We have fit meetings here.

**What else on design?**

**Ian:** The colours we use for Indian are very earthy tones, very soft. When you look at the Victory dealer book then they get a bit brighter and stronger. In terms of branding then everything with Indian is more about embroidery and patches and more vintage. Victory is more modern with rubber logos and silicon.

**Fanny:** Most of the time the materials speak for themselves. If you are using rubber and reflective fabrics then you clearly are going in a more modern direction. With Indian you have



## FEATURE

more leather, faded and washed effects. You get that heritage or vintage feeling that you know will come out in the final product.

**The resource of materials alone must be something that is always evolving and growing bigger, especially when it comes to performance...**

**Ian:** That's right and it is important to get the balance: to have the right look but also perform at the right level. CE testing is not such a priority in the U.S.; it seems like half of the country still doesn't wear a crash helmet! But when we launched the range we decided to put CE protectors in all the jackets because it was a responsible thing to do as a manufacturer whereas other brands might have had it as an option. CE has come on stronger as a garment certification and we wanted to put everything through it because it meant the products perform better.

**Fanny:** We constantly communicate with the supplier. We actually had a UV t-shirt in the last collection. It is something that uses bamboo powder and is a long sleeve garment that adds that extra protection.

**Ian:** Something typical for somewhere like Florida where they don't want to wear a jacket and don't want to wear short sleeves because they are concerned about the sun. So it is a useful top.

**Fanny:** And an example of something new we try to introduce to customers...and it was a product that dealers were asking us about. We are talking about two global brands so we have to cater for different climates as well as tastes. Sizes are also a challenge.



### What about complications such as U.S. fit compared to European?

**Ian:** There is that. When we first started to work with Indian, Scott Wine, the CEO of Polaris, loves the brand and for a guy that runs what must be a four billion dollar company he'd call me into the office with the samples – this was early-on – he'd take off his shirt and put the t-shirts on and say 'I don't quite like this sleeve'. He's not a clothing guy so I was asking him what he didn't like and what he wanted adjusted. At the end of the day the range of core Indian t-shirts in the collection are the Scott Wine fit! He gave it to me precisely! You'd think there isn't much difference between t-shirts because it is quite a simple thing but we had to change the shoulder slopes, the sleeve length and width! But it is actually better to work with someone like that than a person who is disinterested or doesn't really care.





**While we talked about challenges there must be stages that are pretty exciting...especially the reactions...**

**Fanny:** I would say probably the most satisfying moment is the dealer show.

**Ian:** Once a year they will have these conferences in different places in the States and dealers will come in and order for the spring/summer collection. It is a great opportunity. The whole team goes out and we build a showroom with all the new products and we are always very vocal! The more engaged the dealers are then the happier they are and it is a series of events that really validates your work by the reactions you see.

**Fanny:** Sometimes you see someone wearing a product you have developed and they are happy and proud of it and you know you have done your job well.

**Do you think the current fondness for bikes and retro is a fad? Will people move on to something else in a couple of years?**

**Ian:** Maybe I am biased as a motorcyclist but I think it has always been cool! When we first start putting together mood boards then we will look at what G-Star are doing, Replay, Diesel and All Saints. I think they are now also looking at what we are doing and somehow they come together. It is at a 'high' at the moment...but classic motorcycle jackets, boots, t-shirts is a cool look forever.

**Fanny:** As long as bikes are still around then you will have apparel to go with them.

**Lastly, brands might be engaging new or old bikers but in producing casualwear you are almost like a vanguard in taking the brand to many non-bikers. Is that a privileged position?**

**Ian:** Yeah...years ago at Triumph it was something we talked about but never had the budget to do. Indian and Polaris have been generous enough to put some budget behind it and to see if there is the opportunity for it to help them as a business overall. At first it will be small but they definitely have the vision. Steve Manetto, the president of motorcycles at Polaris, is a fantastic guy and he is one of the reasons they have done so well. I wish I met him thirty years ago!







## ARAI

Arai launched their RX-7V last summer but browsing through the website and reading the attributes of the Japanese firm's new lid reveal just how impressive the flagship model actually is and how many top class motorcycle racing athletes put their faith in the street product. A 30g decrease in weight to an already formidable shell (with their R75 shape technology) comes through a different resin and the visor mounting point is now 24mm lower which allows for an even smooth shape for that important 'sliding effect' in the event of a get-off (just watch Shinya Nakano's 2003 MotoGP Mugello crash on youtube for evidence). There is now a thinner and anti-microbial material liner, reinforced side panels and a new and longer diffuser with larger intakes for cooling and better air distribution. Overall it is a marked upgrade on the helmets trusted by the likes of Viñales, Pedrosa, Crutchlow and co. Arai have also been busy with their design and Drudi association to come up with special Honda editions and a fetching Isle of Man scheme for 2017. Expect to pay serious coinage but this is a quality piece of kit...at least until Arai start to offer more versatility in their protection.

[www.araihelmet-europe.com](http://www.araihelmet-europe.com)











By Kent Brockman, Photos by Steve English

# TAKE-OFF TIME

THE EVER-DEPENDABLE KENT BROCKMAN WAS AT THE FINAL EUROPEAN WORLD SUPERBIKE TESTS IN SPAIN AND PORTUGAL LAST WEEK AND GAVE US HIS PERSPECTIVE AS REA, SYKES, DAVIES, MELANDRI, LAVERTY, LOWES, HAYDEN, BRADL, VAN DER MARK AND CO START TO THINK ABOUT AUSTRALIA



FINAL EURO RUN FOR WORLDSBK





# LONG ROAD AHEAD FOR HONDA?

The weeks leading up to the start of any racing season are typically filled with optimism. Teams up and down the paddock speak about the gains they've made over the winter and how they can challenge for podiums and race wins.

The introduction of the new Honda Fireblade SP2 should have seen the Ten Kate Honda garage filled with beaming smiles. Worried faces and fevered brows were however all that was on display from the team at the Jerez and Portimao tests. With Stefan Bradl joining Nicky Hayden for the coming campaign expectation was high that Honda would make a step forward but instead the team faces a challenging start to the campaign.

Delivery of the bikes came late in the winter and while it is the very early stages of the bike's development the start of the 2017 WorldSBK season is only weeks away. Speaking at the conclusion of the European tests both Bradl and Hayden made it clear that the team has a daunting task ahead of them.

Edge grip and electronics are the primary concerns with both riders looking ill at ease on track and frustrated off track. With the bike still running lots of parts from last year's machine and a shortage of spare parts, the SP2 will not officially go into production until April, the season ahead looks likely to be a development campaign.

"We have some problems with the electronics which is costing us a lot of grip," explained Bradl. "Once we lose the grip the bike never recovers it. We made a lot of changes with the torque maps, the traction control and power deliveries during these tests but the system didn't follow those changes but we should have new maps available for Phillip Island. It was a

bit weird and we struggled with the grip because of that. We also struggled because the traction control doesn't work constantly or smoothly and that means that we abuse the tyres."

The German, a former Moto2 world champion, will start his rookie WorldSBK season without the weight of high expectations and he talked about how important patience will be. Having joined from Aprilia's MotoGP project he has will know the challenge of the task ahead.

"I have some experience of developing a new bike after Aprilia in MotoGP so I understand the process that we will have with this bike. The team has a lot of experience."

While Bradl will preach patience Nicky Hayden knows that at 35 years of age he doesn't have time to wait for a development season. There are only so many seasons left in the Kentucky Kid and he had clearly hoped for more from the new bike. Sitting in the garage of the Ten Kate squad at the end of a difficult test he cut a forlorn figure but he spoke with the drive and determination that has been his calling card throughout his career.

"I don't know how to sugar coat it because this was a difficult week," said Hayden. "The team hasn't had a lot of time to prep the bikes and they've done a great job of turning it into a race bike after only a few weeks but we've got some challenges. You can see by the lap-times that it hasn't been a great week."

"That's part of testing a new bike and you improve bit by bit but we're limited at the moment. The driveability of the bike and the power of the engine means that there's a lot of holes in the power. We had a lot of spinning, bumping and the bike moving underneath me. To be honest it's been a pretty frustrating couple of days but this isn't the first time that I've had a frustrating test in my life and we'll work on it."

"I don't know what to expect for Phillip Island but the team will look at the data and try and improve the mapping to smooth the power out and then we'll see how it is. I won't make any predictions yet but I won't be giving up either!"



FINAL EURO RUN FOR WORLDSBK









# TESTING, TESTING, TESTING FOR DUCATI

Far from sitting on its laurels after winning seven of the last eight WorldSBK races of 2016 Ducati came out of the blocks swinging at the Jerez and Portimao with a busy testing programme. Chaz Davies evaluated the chassis and Marco Melandri worked on the engine for most of their time on track. Afterwards the Welshman gave a revealing insight into the makeup of the mindset of one of the world's top racers.

"It's easy to say that testing is fine tuning but it really isn't fine tuning," said the Welshman. "We want to take steps forward with the bike and don't want half a tenth; we want to find tenths of a second. You won't get those tenths by changing a little bit of this and a bit of that and thinking that we won seven of the last eight races. We need to take steps forward because our biggest competitor has come out with a new bike and it's up to us to react and step up to the challenge."

Having Melandri, a former 250GP champion and MotoGP race winner, on the other side of the pitbox will undoubtedly help Ducati to step up to that challenge. The 19 times WorldSBK race winner has looked to be in a very positive mindset since returning to the class and ended the Jerez test marginally faster than Davies overall before the Welshman reasserted his dominant form in Portugal.

Having completed four days of running the team worked through a comprehensive programme while trying to find those steps forward. With the work being undertaken the concern was not about the overall laptime as much as finding out what worked and what didn't work on the Panigale R.

"In testing when you get a part you put it into the bike and you find out how it feels," explained Davies. "You put laps on the part and then try a few things with it but it's time consuming and by the time you've done that you need to move on

to the next part. We've a list as long as my arm to focus on and you end up moving quite far away from what would be the base bike. There's no disasters and it's just testing of these parts rather than [when we're racing where we] put together a package that cherry picks all the best parts.

"Having Marco does lessen the load and it helps. There's a lot of stuff to test and it's time consuming to get through it all. You think that you have all day to get through the workload and that eight hours will be enough but the time goes like that [clicks fingers]."

With the Kawasaki riders sitting out the Portuguese test it was always likely that Davies would set the pace Davies spent the second day evaluating various chassis and engine parts.

"We spent the second day jumping from the 2017 bike and back to the 2016," said Davies.

"The new bike has a different engine and some other changes. Doing that allowed us to understand a couple of reasons why I wasn't able to get as good a feeling as I'd hoped for during the Jerez test and when we back to backed a few things it narrowed down the area from where that feeling was coming from.

"Today going back to the 16 bike, although it's not got quite as good an engine, there were positives from it. It's just a matter of mixing both those bike for the next test. The character of the new engine is a little different but also the 2017 bike is a little different. At the minute on the first touch of gas the new bike is a little nervous but it's just a matter of time to dial that out now that we have so much data from the running this week. There's definitely potential with the 2017 once we smooth it out and I'm happy with how this test went."

Marginal gains is the key for Ducati and maximising each area of the bike with team boss Ernesto Marinelli assessing their task by saying, "There's no one area that we need to shoot at to improve because by mid 2016 we had found a good balance so now we're working on every aspect to improve them all by a little bit."









## FINAL EURO RUN FOR WORLDSBK

A crash on Saturday in Portugal but still almost 130 laps banked for Alex Lowes; the Brit starts his second year on the R1 and hoping to elevate top ten promise in 2016 to podium contention



Four days of winter testing at Jerez and Portimao has left the Milwaukee Aprilia team in good spirits ahead of the season opening Australian round. The Iberian tests helped the team shed light on some issues with the bike and over the course of 32 hours of track time they were able to make consistent progress.

Braking stability was the main concern for Eugene Laverty at the Jerez tests but after the two days in Portugal the Irishman said that the problem was much improved and he was ready for the start of the campaign.

“We made a good step in Portimao but it’s one thing to make an improvement and find a good laptime it’s another to make it consistent. We found that consistency with a few steps and I’m definitely a lot more comfortable with the bike and doing a lot of laps. I was lacking so much confidence in Jerez because I couldn’t attack. Every time I’d lean into a corner I’d have so much chatter that I was expecting to crash. I saved a lot of crashes in Jerez so it’s so nice to be able push hard again and see what you can do with it lap after lap.”

After the Jerez test Laverty was uncharacteristically downcast and while some of that could be attributed to a final day crash when hit from behind most of it was borne from frustration. The former title contender is returning to WorldSBK aiming to win and with his confidence robbed at Jerez it was clear that he was frustrated by the lack of progress.

“I feel a lot more confidence ahead of Phillip Island now. We’ve had six days on the bike and I’ve gotten used to the Pirelli tyres again. WorldSBK bikes are so similar to a MotoGP that the only real difference is the tyre because it determines lean angle, braking, grip. I think that having so much support from Aprilia, who have their MotoGP programme, it means that this bike is even more like a MotoGP bike than it was before. Now I feel that I’m riding the Pirelli tyre exactly as it needs to be ridden and also riding this bike is big too. I know exactly how the Aprilia should feel around here. When you have that experience of the bike it means

## BACK WITH A BANG



that we can realistically expect to fight for wins from the off.”

Finding that improvement from the bike was crucial for Laverty but the test also saw him tick another box by using the qualifying tyre once again. In setting the second fastest time on both days of the Portimao test he is now in a very strong position ahead of the opening round. For team boss Mick Shanley the improvements and feeling within the team are now clear to see.

“Everything is so new that it’s been a busy week of testing for us. We’ve been trying to keep things sensible and work through our plan as constructively as possible to have a good bike at the end of the test. We made some steps forward throughout the two days in Portimao and Eugene is now a lot more comfortable with the bike.

“There’s obviously still work to be done in Australia but the times were good during this test and it was positive that both riders were able to use a qualifying tyre to understand how it will feel at the first round. From the team’s perspective it’s very positive that both riders agree on a lot of points in relation to this bike and a lot of the comments are the same though. That will help with the development direction we take. Everybody will have strong expectations about Phillip Island for us but we’ll go there with a positive attitude.”



FINAL EURO RUN FOR WORLDSBK





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**MotoGP**

**2017 TEST**

**SEPANG · JANUARY 30-FEBRUARY 1**





MotoGP SEPANG TEST

SEPANG RITUALLY TURNS THE HEAT UP ON MOTOGP FROM THE VERY FIRST WHEEL TURN OF A NEW YEAR. THE INITIAL TEST OF 2017 WAS A SMALL BAG OF CURIOSITIES IN TERMS OF WHAT WAS SEEN AND WHAT WAS SHOWN. PART TWO TAKES PLACE IN AUSTRALIA IMMINENTLY BUT CORMACGP OPENED HIS ACCOUNT FOR THE SEASON IN MALAYSIA WHILE DAVID EMMETT AND NEIL MORRISON WERE THE EAGLED-EYED...

# 25 TAKING NO QUARTER

Photos by CormacGP, Blogs by David Emmett & Neil Morrison



Second fastest on the final day and with more laps to his chart than any other rider; it seems that 2017 work and prep for a third title defence in four years is heading in a positive way for Marc Marquez. Or are the Catalan's talents masking issues with the RCV once more?





MotoGP SEPANG TEST









MotoGP SEPANG TEST





# GROUND, HITTING, RUNNING...

By Neil Morrison

**T**here was a moment on the Tuesday evening of last week when you'd have been forgiven for thinking HRC had once again failed to learn from their mistakes. At the close of the second day of testing at Sepang, just one of Honda's riders sat inside the top ten (Marc Marquez in tenth), while two others (Jack Miller and Tito Rabat, 21st and 23rd) didn't even make the top twenty – hardly a promising indication of things to come.

Then there were Marquez's assessments, which hinted that the 2017 RC213V was still some way off where it needed to be, and could have suggested Honda's insistence to design the machine in its own way, without taking rider feedback into account, had shone through. "One of the points that we are struggling more is the exit of the corner," said Marquez. "As soon as you touch the gas, you have to change or find another strategy to use all the power to find grip."

Sound familiar? A different year it may be, but acceleration was once again a serious issue, as it had been in 2015 and '16. This all followed the Valencia test, where both Marquez and team-mate Dani Pedrosa stressed the same concerns, with the reigning world champion giving the impression that he was rather irked by the predicament.

Yet not everyone was convinced that Honda's issues amounted to anything other than early teething problems. The seasoned Valentino Rossi, entering his 22nd premier class campaign, knows a thing or two about mind games. "For Marquez we have to wait," said the Italian that evening. "Today he worked on used tyres, long runs and he hide. I'm not surprised if tomorrow he puts on new tyres and gives half a second to everybody."

And while Marquez didn't quite demolish the opposition in the way his Italian nemesis had predicted,

Wednesday's performance showed Rossi to be right. Marquez had been hiding. His second fastest time, set despite "sacrificing my time attack for the long run", showed that he has the speed. As does Dani Pedrosa, who ended the test fifth. And despite Marquez's talking down of the situation, Honda seems to be well placed to, at the very least, challenge for its fourth rider's world title in five years. While Maverick Viñales grabs the headlines, Marquez is quietly going about his business, underplaying his potential and ensuring his readiness for round one in seven week's time.

Like in Valencia, Marquez's consistency was exceptional. While some way off the fastest pace on Tuesday, the 23-year old appeared to have the RC213V dialed in on his final two runs. Of the whopping 85 laps he posted a day later, 42 of those were in the 2m 0s or the 1m 59s. Only Viñales (29) and the test's surprise package Alvaro Bautista (28) could get close. As if to leave Malaysia without any doubts, Marquez posted an ominous eleven lap run in the low 2m 0s at the end of the afternoon, with just a 0.2s variation in lap time. It appears he's quickly adding the metronomic Lorenzo's regularity to his armory of skills.

Part of this can surely be explained by Honda's switch to a new engine configuration for 2017. Marquez, Pedrosa and Cal Crutchlow all tested two new motors with revised 'big bang' configurations that are some way from the 'screamers' they've raced since the reintroduction of 1000cc engines in 2012.

While each man remained tight-lipped on engine character, Marquez admitted the all-new powerplant is easier to ride. "It looks like in the RPM it is really different [and] with the gas maybe smoother," he said. That falls in line with Jack Miller's comments after testing one of these new





engines for HRC at Jerez in November. There, the Australian was positively jubilant at the bike's ability to make similar lap times over and over again, while physically it was less demanding than what had come before. "It was good," beamed Miller, describing a fast late race run. "Really, really, really good."

The problems Marquez detailed in Sepang were mainly teething issues with this. Adapting the engine mapping settings to the motor's new characteristics took a great deal of time. "In the end it's the torque delivery, how to manage the exit, how to manage the torque then on the wheelie side, under acceleration," he said on Wednesday. But this can mostly be remedied by electronics set-up he added. If last year is anything to go by, HRC's team of data technicians can bring about substantial improvements before and during the year.

There was reason behind Yamaha's managing director Lin Jarvis labelling Marquez as "the reference" for which his riders must aim in 2017. Viñales also spoke of it, saying his fellow Catalan's consistency at the Valencia test brought his own need to work on hitting the same markers lap-in, lap-out into focus.

The good work done behind the scenes at HRC until now hasn't been accidental. Marquez, who had come in for some mild criticism from Pedrosa midway through '16 for making the final engine choice, was keen to avoid the difficult pre-season of last year. While it never realistically appeared that he'd leave 'Big H', an announcement on his contract renewal didn't arrive until early June – late by last season's standards. The inclusion of clauses relating to his technical team's overall influence on bike development were key to him signing, and were responsible for the delay. Marquez's insistence on this matter already appears to be paying off.

Now the Repsol teammates need to choose which of the new engines to use moving forward but team principle Livio Suppo has indicated both favour the same motor. All of which also bodes well for Pedrosa. Apparently re-energised by a change of crew chief, a clean bill of health, and the addition of long-time friend and ex-race winner Sete Gibernau to his personal team as rider coach, Pedrosa's speed on Wednesday showed he shouldn't be discounted for race wins. Cal Crutchlow has shown himself to be capable too, while Jack Miller really needs a strong season as he enters the third and final year of his HRC contract.

While few expected Honda to drop to the lows it experienced last winter, the factory appears to be in fine shape early on. And that in spite of ex-vice president Shuhei Nakamoto's retirement at the end of 2016.

Not that 2017 will be easy by any means. If Marquez had not been fully aware of the very real threat posed by Viñales before Sepang, he undoubtedly will now. Five official test days have now passed since '16's last bow and Viñales has topped three of them, and showed even greater pace on what appears to be a well-prepped Yamaha M1. Valentino Rossi was never far away at Sepang and his own playing down of his chances suggests he too is settled. Meanwhile Andrea Dovizioso's speed and Jorge Lorenzo's vast improvement show Ducati will be a contender, while the same can be said of Andrea Iannone and Suzuki. It would be foolish to bet against any one of those men winning races. Yet, if we compare Honda's plight of a year ago – when Marquez still managed a title win -, then the others best-be-ready for Qatar, where, unlike the past two seasons, #93 will surely hit the ground running.










MotoGP SEPANG TEST









A close-up, high-angle shot of a Ducati MotoGP race bike. The bike is predominantly white with red and blue accents. The fairings feature several sponsor logos: 'ADVANCE' in white on a blue background, 'Shell' in yellow and red, 'riello' in white on a red background, 'LEON CUPRA' in white on a red background, and 'TIM' in white on a blue background. The word 'DUCATI' is visible on the side fairing. The bike's engine and mechanical components are partially visible, showing a red and black color scheme. The overall image is sharp and detailed, highlighting the aerodynamic design and branding of the race bike.

MotoGP SEPANG TEST

Jorge Lorenzo had the experience of Andrea Dovizioso next to him in the Ducati box and the still-rapier skills of Casey Stoner as a yardstick. Just under four tenths away from Viñales, #99 was also busy trying the tucks and tricks that Bologna's finest unveiled at Sepang with the latest Desmosedici



# ON THE CUSP OF GREATNESS...?

By David Emmett

**I**s Maverick Viñales the real deal? That is the question we have all been asking ourselves since the Spanish youngster entered MotoGP. The normal yardstick for measuring 'specialness' is how quickly a rider rises to the top after entering each class. Good riders get podiums in their first year of switching, great riders win in their first year. Jorge Lorenzo, Marc Márquez, Dani Pedrosa, Valentino Rossi all won in their maiden attempts after changing categories.

Maverick Viñales ticked all the relevant boxes in his early years in Grand Prix. He won his fourth ever race, an astonishingly mature display in the rain at Le Mans. A year later, when 125s became Moto3, he won again, this time the first outing of the season at Qatar. When he moved up to Moto2 in 2014, he clinched his second outing, in Austin. But he was left empty handed in his first term in MotoGP. He had to wait until his second year to score a podium, and later, his first win.

Was this Viñales hitting his ceiling? Not good enough to win in the premier class? We were left to ponder the elephant in the room: the fact that Viñales had moved to MotoGP with Suzuki on their first year back. Even before they left at the end of 2011, Suzuki had been on a downward spiral. Their last podium had come in 2008, their last win dated from 2007. Was Viñales coming up short, or was it just that Suzuki were not giving him a good enough bike?

We started to get a clearer picture of Viñales' talent in 2016. The Suzuki GSX-RR was a much more competitive package in '16, especially in the second half of the season. The Span-

ish youngster started to shine. He took his first podium at Le Mans, followed it up with a win at Silverstone, then another brace of podiums at Motegi and Phillip Island. Maybe this kid has what it takes after all.

Amid much speculation of his future plans Maverick Viñales then moved to Yamaha. There are no more excuses. The M1 is a proven winner: it owned six races in 2016, and eleven races and a title in 2015. Viñales has picked up the ball and run with it. In the three tests he has taken part in since joining Yamaha, he has finished as fastest. At Valencia, he was quickest on both days. At the private test in Sepang in November, he was reportedly faster than teammate Valentino Rossi, and Tech 3 rookies Johann Zarco and Jonas Folger by some margin. Then at the first test of 2017 at Sepang, he was fastest on Monday and Wednesday, and quickest overall.

More impressive than Viñales' speed was his race pace. The Spanish youngster has spent the off-season studying the timesheets of Marc Márquez, trying to figure out the secret to the Repsol Honda rider's consistency. Viñales spent most of the Sepang test working on race pace with used tyres. GPs are won and lost in the second half of the race, not in the first few laps. Viñales knows he must be quick in the final stages, and has been working on his bike control and smoothness to conserve his tyres and maintain as much of their performance as possible.

He was pretty good at it. Looking at his efforts on Wednesday, the day with the best conditions and when everyone had their bikes fairly well di-





alled in, Viñales was formidable. Viñales racked up ten laps under the two minute mark. He also racked up a further twenty laps in the two minute bracket. Only Marc Márquez did better, and only the surprisingly consistent Alvaro Bautista got anywhere close.

***“Sepang was a sign of what is to come. It was a little courtship ritual, two dancers circling each other...”***

There are still plenty of questions left unanswered after the first two public tests of the 2017 season. Jorge Lorenzo still has work to do to adapt completely to the Ducati, though the signs are very good that he will. Valentino Rossi has been happy with the progress Yamaha has made, but not especially fast. Then again, it isn't Sunday, and Rossi always finds a tenth or two come race day. Can Dani Pedrosa finally pose a real threat? Will Andrea Iannone challenge for wins on the Suzuki Viñales left behind?

Whatever the others may or may not have done, it is clear that #25 will be a force to be reckoned with on the Yamaha. He shows every sign of being the real deal. Watching him out on track, he looked perfectly at ease, urging the M1 around the Malaysian circuit with minimal effort. Speaking to the media at the end of each day, he was calm and focused, clear in his explanation and

unruffled by any questions thrown his way. More importantly, there was no sign of deference to Valentino Rossi. The Italian is a formidable teammate, stamping his authority inside the team, and using subtle, soft power to control and intimidate the other side of the garage. Viñales is impervious, wasting few words on Rossi, his focus solely on Marc Márquez. Márquez, after all, is the reigning champion and winner of three out of the last four championships.

Viñales and Márquez found themselves together out on track on the last day of the test. They followed one another for a few laps, passing and sizing each other up. Viñales dismissed the encounter as relatively meaningless. “We were just passing and enjoying,” he told us. “We weren't learning so much, we were not riding really fast.”

It may not have been in earnest at Sepang, but it was a sign of what is to come. It was a little courtship ritual, two dancers circling each other before battle is joined for real later in the year. Maverick may have singled out Marc, but Marc is also all too painfully aware of Maverick. This has all the makings of a new rivalry in MotoGP. If Maverick Viñales is half as good as testing promises, Márquez vs Viñales could be the clash of the titans for many seasons to come.



# AFTER THE GRINDSTONE

By Roland Brown

Photos by Zep Gori, Ciro Meggioralo and Francesc Montero





2017 HONDA FIREBLADE





## TEST

It says much about the sound design and reputation of Honda's Fireblade, dating all the way back to 1992, that the outgoing model remained respectably popular although its last major redesign was almost a decade ago. Hence the sense of anticipation surrounding this new-generation 'Blade, of which 90 per cent of components are new, including a cutting-edge electronic system for the first time.

This revamp of its flagship sports bike is hugely important for Honda, which for the first time has created three closely related machines. Alongside the standard CBR1000RR Fireblade is a higher-specification SP model, featuring semi-active suspension and uprated brakes, plus an exotic SP2 model with some engine tweaks and intended to be fitted with a race-kit for track use.



The standard RR and SP share a much-modified, 999cc four-cylinder powerplant, which incorporates fresh cylinder head, pistons, crankshaft, cams and valves. The injection system is overhauled, the airbox is reshaped and the new exhaust features a lightweight titanium silencer. The Fireblade's vital statistics say it's right back among the contenders: peak power up by 11bhp to 189bhp at 13,000rpm, and wet weight reduced by 15kg to 196kg (the SP is a kilo lighter still). Power-to-weight ratio is increased by a healthy 14 per cent over the old model.



Equally importantly, the new electronics package, incorporating Bosch's much-used Inertial Measurement Unit, allows a nine-way-adjustable traction control, called Honda Selectable Torque Control, plus anti-wheelie, lift control (anti-stoppie) and adjustable engine braking. Three pre-set rider modes, designated Track, Winding Road and Street, come with different combinations of engine power, throttle response, traction control and engine braking. There are also two programmable User modes. Reduced weight was a major feature of the new 'Blade, just as it was with the original CBR900RR that revolutionised the superbike world in 1992. Project leader Masatoshi Sato was inspired by an old Japanese slogan: "With enough dust you can build a mountain." His quest to save every possible gram began with engine covers made from magnesium instead of aluminium.





2017 HONDA FIREBLADE









2017 HONDA FIREBLADE



**"COMPARED TO THE OUTGOING MODEL, IT'S  
FASTER, LIGHTER, MORE MANOEUVRABLE  
AND MUCH MORE SOPHISTICATED..."**



## TEST

Bodywork is 1.8mm instead of 2mm thick; many bolts are fractionally shorter; the wiring loom is redesigned. Geometry of the aluminium frame is unchanged but thinner spars reduce weight by 500g. The SP model also has a lighter titanium petrol tank and lithium battery, but its main differences are suspension and brakes. In place of the standard model's Showa Big Piston Forks and rear shock, the SP gets Öhlins' Smart-EC semi-active suspension, while the RR's Tokico radial four-piston front calipers are replaced by Brembo Monoblocs.



It's impossible to say with any confidence how the Honda will fare in a shootout against its main rivals, but at the launch at the Portimao circuit in Portugal it certainly felt on the pace: eye-opening rapid and superbly agile. The motor revs fast and smoothly, the bike charging forward as the digital tachometer jabs towards the 13,000rpm limit through the gears, and the titanium silencer shrieks a crisp, high-pitched accompaniment.

The Blade also charges hard out of slower turns, displaying sufficient midrange grunt to suggest it will make a sweet, rider-friendly road bike. Its acceleration is enhanced by a new quick-shifter, which incorporates an auto-blipper for down-shifts, and is standard fitment on the SP model but an accessory with the RR.

Handling of the standard Fireblade is impressively sharp, the bike's reduced weight helping to make it outstandingly manoeuvrable. The RR's Tokico front brake is fiercely powerful,

too, although the ABS occasionally activates on track, due to the rear wheel lifting. At Portimao this was less pronounced with the SP, whose firmer Öhlins suspension kept the bike very stable, resisting the ABS's tendency to cut in.





## 2017 HONDA FIREBLADE

The SP corners superbly with its suspension in Manual mode, which keeps the Öhlins units' damping rates constant, and allows fine-tuning by pushing the handlebar button rather than using a screwdriver. And the Fireblade delivers its full chassis potential with the Smart-EC system in semi-active Auto form, when suspension movement and numerous other parameters are monitored 100 times every second, and damping levels are constantly updated to suit.

That ability to adapt suspension settings to the fast-changing situation is useful on track, and will also be beneficial on the road, when a press of the button to select the quaintly named Winding Road or softer still Street mode will quickly optimise both suspension and power delivery. The SP costs roughly 25 per cent more than the standard RR (£19,195 against £15,225 in the UK) but it's a seriously classy superbike.

And the standard RR, too, is a fine machine that puts the Fireblade right back into the super-sport mix on both road and track. Compared to the outgoing model, it's faster, lighter, more manoeuvrable and much more sophisticated. Better still, it honours the original 'Blade designer Tadao Baba's legacy by impressing not simply with horsepower and pure speed, but with a balance and agility that makes it as rewarding to ride as it is fast.







## BACKPAGE

Monster Energy girls  
by Monster Energy











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**'On-track Off-road'** is a free, bi-weekly publication for the screen focused on bringing the latest perspectives on events, blogs and some of the very finest photography from the three worlds of the FIM Motocross World Championship, the AMA Motocross and Supercross series' and MotoGP. 'On-track Off-road' will be published online at [www.ontrackoffroad.com](http://www.ontrackoffroad.com) every other Tuesday. To receive an email notification that a new issue available with a brief description of each edition's contents simply enter an address in the box provided on the homepage. All email addresses will be kept strictly confidential and only used for purposes connected with OTOR.

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